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Bottled Water Mania:

America's Misguided Infatuation with Bottled Water over Tap Water

by

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A Research Report Submitted to the Faculty

In Partial Fulfillment of the Graduation Requirements

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Maxwell Air Force Base, Alabama

May 2010

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Abstract

The purpose of this paper is to analyze the tendency for American people to drink bottled water over tap water even though it costs more, has no better health benefit, and is worse for the environment.

Do you remember the days when if you were thirsty, you would just turn on the faucet and fill a glass of water to drink without any second thoughts? Today drinking water from a tap will not suffice for some people anymore. People instead choose to pay for bottled water when they want to quench their thirst. We live in arguably the most advanced nation in the world with the most stringent health regulations for the water that we can consume, yet many people feel that tap water is not good enough for them. Ironically, this habit of continuously buying bottled water with the conception of it being healthier for our bodies is creating enormous amounts of waste that is unhealthy for our environment. Why is there such an affinity towards drinking bottled water? Besides aggressive marketing tactics from the bottled water companies, convenience, health, and taste are the most common answers. I will expound on the rationality behind those reasons, debate their validity, and offer alternatives that are just as good yet better for the environment.

Is bottled water really healthier than tap water? Bottled water is actually subject to fewer regulations than tap water. The Food and Drug Administration (FDA) is in charge of regulating bottled water, and the U.S. Environmental Protection Agency (EPA) regulates tap water. According to the Safe Water Drinking Act, the EPA requires public water systems to be tested by certified laboratories. Furthermore, public water systems must provide reports to customers about the water's source, contaminants, and compliance with regulations.¹ This public transparency of the public water system's compliance with regulations puts more pressure on them to produce the highest quality water.

On the other hand, the FDA cannot require bottled water to undergo certified lab testing because bottled water is regulated as a food. Bottled water companies are not even required to disclose to the consumer the origins of the water. Just because pictures of snow capped

mountains and rivers are displayed on their bottles doesn't mean the water came from that type of environment. In fact according to a 4 year study conducted by the National Resources Defense Council (NRDC) of over 1,000 bottles of water, an estimated 25 to 40 percent of bottled water is essentially just tap water in a bottle. For example, "Spring Water", which had a picture of mountains surrounding a lake, was extracted from an industrial parking lot next to a hazardous waste dump.²

The differences in requirements between EPA tap water and FDA bottled water regulations are quite noteworthy. Tap water is required to be disinfected, but bottled water is not. Tap water must be confirmed that banned E.Coli and fecal coliform bacteria are not present. Bottled water does not share this requirement. Tap water is tested for bacteria hundreds of times a month. Bottled water is tested for bacteria only once a week. Tap water must be filtered to remove pathogens. There are no requirements for filtration of bottled water. Tap water must be tested for cryptosporidium, giardia, and viruses. Bottled water is not tested for these pathogens. Tap water is tested for synthetic organic chemicals once every 3 months. Bottled water is only tested once a year.³ This data shows the disparity between the levels of regulations imposed upon the different water sources. Which one do you feel more comfortable drinking?

A small study that was published in BMC Public Health concluded that people tend to believe that bottled water is healthier than tap water even though they are not sure exactly in what way.⁴ Tests show that bottled water has no health benefit over tap water. In fact tap water is definitely healthier in one category. Tap water has fluoride while bottled water doesn't. That means you have a lower chance of getting cavities if you drink tap water.

Furthermore the respondents to the study tended to be motivated by convenience more than anything else. That is no surprise. From fast food chains to mini-marts, American culture

and consumerism is notorious for wanting access to goods quickly and conveniently. This need for convenience in this throw-away society is causing more harm to the environment than good for our bodies.

Of course not all scenarios for using bottled water are bad. Take the current disaster in Haiti for instance. Their public water system was already very poor before the 7.0 magnitude earthquake struck that killed thousands and left even more homeless and in need of medical care. Getting clean water to Haiti's victims was time sensitive since the human body on average can survive without water for only 3 days. In this scenario the most efficient means of initially getting clean water to the masses was to ship in bottled water. Through Operation Blessing International (OBI) the USNS Sacagawea was able to deliver 175,000 ½ liter bottles and 10 Water Missions International (WMI) water plants (each capable of purifying 10,000 gallons a day) to devastated Haiti.⁵ In this case the immediate effect of saving thousands of lives by providing bottled water outweighed the negative impact of all the plastic waste that would be left behind.

If you have ever visited or intended to visit Mexico, you have probably been warned not to drink the water. Doing so by non-indigenous tourists will most likely bring them stomach sickness and diarrhea due to the bacteria in the water. In this case the prudent tourist should drink the bottled water for health reasons since the tap water truly is not as healthy as the bottled water.

One of the main arguments against using bottled water is the waste that the bottle itself creates after it has been used. Plastic bottles in landfills can take hundreds of years to decompose, causing a profound environmental impact. The oceans are another victim of plastic bottle waste. The plastic bottles pose threats to marine organisms by damaging their environment and also from accidental consumption. Affected further up the food chain are the

humans who eat the marine life who eat the organisms who eat the decomposing plastics. Since animals are not equipped to digest plastic, those who ingest plastic will most likely become ill or possibly die.

Another environmental concern caused by bottled water is the creation of CO₂. Evidence shows that producing one liter of bottled water creates around 600 times more CO₂ than one liter of tap water.⁶ Refilling bottles or thermoses repeatedly with tap water would lower the cumulative negative effect of CO₂ on the environment created by the creation of plastic bottles.

A shrewd devil's advocate would argue that creating a stainless steel bottle causes much more harm to the environment than does creating a plastic bottle. This is true. More fossil fuels are required to make the stainless steel bottle, and more greenhouse gases are released because of this. However, if that one steel bottle is used instead of using hundreds of plastic bottles, the environmental benefits will outweigh the negative environmental impact caused by that steel bottle in relation to using hundreds of plastic bottles.⁷

The last argument for drinking bottled water is the taste. If you insist that tap water tastes bad, put in a slice of lemon. Not only will it improve the taste of the water, but it will help alkalize your blood and provide a source of Vitamin C. Another option is to install a water filter to your faucet or to fill a water filtered pitcher with tap water.

For those who are serious about drinking healthy water, another option is to use an ionized electrolysis water generator. There are different brands of varying prices, but they generally do the same thing. Acidic food and drinks are bad for the body. Through electrolysis, the water generators produce alkaline water which the body prefers. Studies have shown that bottled water is actually acidic and therefore bad for the body. However not everyone is willing to fork out the money for the expensive ionized electrolysis generators. Then again, how much

does one value his or her own life? Bottled water is not cheap. Over time (though a very long time) one can save money from not having to buy bottled water, and save the environment by not creating extra garbage.

The cost of bottled water is ridiculous when you compare it to the price of gasoline. Wouldn't you expect gasoline to cost more than water? Now the average cost of super unleaded gasoline is around \$3.00/gallon. The cost of a 9 ounce bottle of water is about \$1.50. This translates to over \$21.00/gallon for bottled water. When the price of gasoline goes up a dollar it's all over the news and people whine about it. However we have no problem paying inflated amounts of money for water in a bottle when we have access to essentially free tap water. According to the Environment Health and Safety Online website, people spend up to 10,000 times more for bottled water than they do for tap water.

Our great grandparents would have most likely laughed at our society's infatuation with bottled water. "Let me get this straight. Are you telling me that you are paying for your water when you can get healthy water for free? On top of that, the cost of water is more than the cost of gasoline? I don't get your generation." Comedian Chris Rock makes a funny point about tap water. (I must paraphrase as Rock's jokes tend to involve profanity.) He jokes about how Americans spend money on bottled water even though we can get water for free while people in other parts of the world who are dying from thirst walk miles just to get drinking water. He goes on to say that Americans only use tap water to clean our stinky body parts. Then he concludes by saying tap water is called "tap" water because we "tap it on our (lower region)."

Every office building and school is required to have drinking fountains readily available. Right outside of my classroom is a perfectly functioning drinking fountain that spurts out cold, refreshing drinking water. Surprisingly I've seen classmates walk all the way to the end of the

hallway to purchase bottled water instead. If they would just fill the same cup or bottle everyday with water from the water fountain, think of the money they would save while reducing their trash imprint. Why walk all the way down the hall for expensive water when the free water fountain is just outside your door? After all, aren't Americans all about convenience? We all know that bad habits are hard to break, but this is a fairly easy one that is worth breaking. We have only one body and one earth. Use your one bottle over and over again, and make one huge difference.

¹ Goodman, Sara *Fewer Regulations for Bottled Water Than Tap, GAO Says* New York Times, NY Jul 9, 2009

² Anonymous *Drinking Water Information Bottled Water or Tap Water*. www.ehso.com/ehshome/DrWater

³ Anonymous *Drinking Water Information Bottled Water or Tap Water*. www.ehso.com/ehshome/DrWater

⁴ Anonymous. BioMed Central; *People think bottled water is healthy...sort of*. Atlanta: Jul 12, 2009. p. 138

⁵ Ireland, Michael *Operation Blessing International Loading U.S. Navy Ship with Over 200 Tons of Critical Relief Supplies and 10 High-Production Water Purification Plants* ASSIST News Service, Lake Forest, CA Jan 18, 2010

⁶ Thomas, Joe *Less than watertight*. Haymarket Business Publications Ltd. London: Apr 22, 2009. p.16

⁷ Goleman Daniel and Norris, Gregory *How Green Is My Bottle?* New York Times, NY www.nytimes.com

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